TEJUS
CONSULTANTS

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/S Benaka Developers and Projects Pvt Ltd

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	Date of Sampling	15-07-2022
Sample Location	Shabarinagar main road	Date of Testing	16-07-2022

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	365.00	377.00	351.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	279.00	284.00	265.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	86.00	93.00	86.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.56	24.67	24.50	
5	Average Aggregate impact value	(%)	24.24			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS
CONSULTANTS

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M S Benaka Developers and Projects Pvt Ltd

FLAKINESS AND ELONGATION INDICES (IS 2386, PART I)

Type of Material		WMM		**Proposed Use**	**WMM**
Sample Location		Shabarinagar Layout 1st Main Road		**Date of Sampling**	**18-07-2022**
				Date of Testing	**19-07-2022**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	626	80	760	71
16.0	12.5	1136	126	650	119
12.5	10.0	765	65	709	50
10.0	6.3	618	55	535	40
Total		**3145**	**326**	**2654**	**280**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.37
Elongation Index(%):	10.55
Combined FI+EL (%)	20.92

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Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	M/S Benaka Developers and Projects Pvt Ltd
Date of Testing	:	19-07-2022
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Shabarinagar Layout 1st Main Road	Date of Sampling:	18-07-2022
		Date of testing:	19-07-2022
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	390	390	3.90	96.10	95-100
22.4	2380	2770	27.70	72.30	60-80
11.2	2480	5250	52.50	47.50	40-60
4.75	1460.0	6710	67.10	32.90	25-40
2.36	789.0	7499	74.99	25.01	15-30
0.6	850.0	8349	83.49	16.51	8.0-22.0
0.075	990.0	9339	93.39	6.61	0-8
Pan	661.0	10000			
Total	10000.0				

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TEJUS
CONSULTANTS

Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	M/S Benaka Developers and Projects Pvt Ltd
Date of Testing	:	19-07-2022
Type of Mix	:	WMM
Sample I/D	:	WMM 3

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Shabarinagar Layout 1st Main Road	Date of Sampling:	18-07-2022
		Date of testing:	19-07-2022
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	369	369	3.69	96.31	95-100
22.4	2415	2784	27.84	72.16	60-80
11.2	2435	5219	52.19	47.81	40-60
4.75	1485.0	6704	67.04	32.96	25-40
2.36	792.0	7496	74.96	25.04	15-30
0.6	843.0	8339	83.39	16.61	8.0-22.0
0.075	982.0	9321	93.21	6.79	0-8
Pan	679.0	10000			
Total	10000.0				

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Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/S Benaka Developers and Projects Pvt Ltd

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date: 20-07-2022	
Layer no. or level	WMM I layer	
Depth of hole	250mm	
Field density:	1	2
Chainage	Shabarinagar Layout 1st Main Road Ch:69	Shabarinagar Layout 1st Main Road Ch:102.00
Wt. of wet material from hole (Ww) gms.	5995	5977
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10590	10592
Wt. of sand in hole+ cone (w3) gms.	4410	4405
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3330	3325
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.38	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt of the dry material)=(100yb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.39	98.43
% compaction required	98%	98%

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Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	M/S Benaka Developers and Projects Pvt Ltd	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**21-07-2022**
Layer no. or level	WMM I layer	
Depth of hole	250mm	
Field density:	**1**	**2**
Chainage	**Shabarinagar main road at Ch:262**	**Shabarinagar main road at Ch:358**
Wt. of wet material from hole (Ww) gms.	5970	5980
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10593	10585
Wt. of sand in hole+ cone (w3) gms.	4408	4412
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3328	3333
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w1*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.13	98.15
% compaction required	98%	98%

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TEJUS

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 06 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	M/S Benaka Developers and Projects Pvt Ltd

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

Date: 23-07-2022

Layer no. or level	WMM I layer	
Depth of hole	250mm	
Field density:	1	2
Chainage	Shabarinagar Layout 1st Main Road Ch:123.00	Shabarinagar Layout 1st Main Road Ch:248.00
Wt. of wet material from hole (Ww) gms.	5978	5988
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10590
Wt. of sand in hole+ cone (w3) gms.	4401	4402
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3321
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(ys))gm/cc	2.37	2.38
Moisture meter reading(moisture content)	6.30	6.30
Result		
DDD(Wt of the dry material)=(100γb/100+me)gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.35	98.63
% compaction required	98%	98%

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TEJUS
CONSULTANTS

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Benaka Developers & Project Pvt.Ltd.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**17-08-2022**
Sample Location	At plant	**Date of Testing**	**17-08-2022**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	395.00	375.00	368.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	298.00	285.00	274.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	97.00	90.00	94.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.56	24.00	25.54	
5	Average Aggregate impact value	(%)	24.70			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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CONSULTANTS

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Benaka Developers & Project Pvt.Ltd.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	DBM
Sample Location		At plant		**Date of Sampling**	17-08-2022
				Date of Testing	17-08-2022
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7390	672	7040	340
31.5	25.0	4125	246	3622	265
25.0	20.0	2453	250	1086	230
20.0	16.0	1542	322	925	255
16.0	12.5	602	118	455	188
12.5	10.0	490	68	266	78
10.0	6.3	120	72	62	54
Total		**16722**	**1748**	**13456**	**1410**

Results

Flakiness Index(%):	10.45
Elongation Index(%):	10.48
Combined FI+EL (%)	20.93

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TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	19-08-2022
Type of Mix :	Tack coat
Sample I/D :	4
Location :	Hegdenagar Main Rd

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Loacation	**Chainage**	**@Ch:82**	**@Ch:136**	**@Ch:235**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.792	0.779	0.765
Final weight of plate after application of tack Coat (c)	Kg	0.815	0.802	0.788
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.254	0.254
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Benaka Developers & Project Pvt Ltd
Date of Testing	:	19-08-2022
Type of Mix	:	DBM
Sample I/D	:	DBM-I

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1 Weight of Mixture before extraction, g	882	930
2 Weight of Mixture after extraction, g	844	890
3 Weight of Bitumen	38	40
4 Weight of filter paper before extraction, g	2 00	2 00
5 Weight of filter paper after extraction, g	4 00	4 00
6 Weight of fines, g	2 00	2 00
7 Weight of Bitumen & fines	40 00	42 00
8 Bitumen content in %	4 54	4 52
9 Average Bitumen content in %	4 53	
10 Minimum Bitumen content in %	4 50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10 Grading-2)

Sample Location:	Shabarinagar main road	**Date of Sampling:**	19-08-2022
		Date of testing:	19-08-2022
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	844

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37 50	0 0	0 0	0 00	100 00	100 00
26 50	46 0	46 0	5 45	94 55	90-100
19 00	128 0	174 0	20 62	79 38	71-95
13 20	126 0	300 0	35 55	64 45	56-80
4 750	155 0	455 0	53 91	46 09	38-54
2 360	101 0	556 0	65 88	34 12	28-42
0 300	182 0	738 0	87 44	12 56	7-21
0 075	62 0	800 0	94 79	5 21	2-8
Pan	44 0	844 0			
Total	844 0				

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hejjenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	19-08-2022
Type of Mix :	Tack coat
Sample I/D :	1
Location :	Shabarinagar main road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Loacation	**Chainage**	**@Ch:88**	**@Ch:196**	**@Ch:312**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.789	0.768	0.748
Final weight of plate after application of tack Coat (c)	Kg	0.812	0.791	0.771
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.251	0.250
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Benaka Developers & Project Pvt.Ltd.
Date of Testing	:	19-08-2022
Type of Mix	:	DBM
Sample I/D	:	DBM-4

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	855	948
2. Weight of Mixture after extraction, g	818	907
3. Weight of Bitumen	37	41
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	43.00
8. Bitumen content in %	4.56	4.54
9. Average Bitumen content in %	4.55	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Hegdenagar Main Rd	**Date of Sampling:**	19-08-2022
		Date of testing:	19-08-2022
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	818

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	45.0	45.0	5.50	94.50	90-100
19.00	125.0	170.0	20.78	79.22	71-95
13.20	121.0	291.0	35.57	64.43	56-80
4.750	174.0	465.0	56.85	43.15	38-54
2.360	95.0	560.0	68.46	31.54	28-42
0.300	134.0	694.0	84.84	15.16	7-21
0.075	95.0	789.0	96.45	3.55	2-8
Pan	29.0	818.0			
Total	818.0				

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TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Benaka Developers & Project Pvt.Ltd.
Date of Testing :	20-08-2022
Type of Mix :	Tack coat
Sample I/D :	5
Location :	Hegdenagar Main Rd

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Loacation	**Chainage**	**@Ch:325**	**@Ch:436**	**@Ch:575**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.745	0.773	0.813
Final weight of plate after application of tack Coat (c)	Kg	0.768	0.796	0.836
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.251	0.252
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, BANGALORE
Contractor	:	Benaka Developers & Project Pvt.Ltd.
Date of Testing	:	20-08-2022
Type of Mix	:	DBM
Sample I/D	:	DBM-5

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	842	948
2. Weight of Mixture after extraction, g	806	907
3. Weight of Bitumen	36	41
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	38.00	43.00
8. Bitumen content in %	4.51	4.54
9. Average Bitumen content in %	4.52	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Hegdenagar Main Rd	**Date of Sampling:**	20-08-2022
		Date of testing:	20-08-2022
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	806

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	39.0	39.0	4.84	95.16	90-100
19.00	124.0	163.0	20.22	79.78	71-95
13.20	112.0	275.0	34.12	65.88	56-80
4.750	151.0	426.0	52.85	47.15	38-54
2.360	94.0	520.0	64.52	35.48	28-42
0.300	178.0	698.0	86.60	13.40	7-21
0.075	60.0	758.0	94.04	5.96	2-8
Pan	48.0	48.0			
Total	806.0				

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Project	Improvements to roads and drains at Hegdenagar and its surrounding areas in Ward No 06 Byatarayanapura sub division	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS, BANGALORE	
Contractor	M/S Benaka Developers and Projects Pvt Ltd	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
Date of Testing	**18-09-2022**	
Layer no. or level	WMM I layer	
Depth of hole	250mm	
Field dens.ty:	**1**	**2**
Chainage	**Shabarinagar main road at Ch:85**	**Shabarinagar main road at Ch:176**
Wt. of wet material from hole (Ww) gms.	5990	5988
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10594	10592
Wt. of sand in hole+ cone (w3) gms.	4408	4412
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3328	3331
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w1*(ys))gm/cc	2.38	2.37
Moisture meter reading(moisture content)	6.20	6.40
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.24	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.55	98.25
% compaction required	98%	98%

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Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Benaka Developers & Project Pvt.Ltd.

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	**DBM**
Sample Location		At plant		**Date of Sampling**	**09-02-2023**
				Date of Testing	**09-02-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7385	672	7045	345
31.5	25.0	4125	245	3630	272
25.0	20.0	2450	255	1090	235
20.0	16.0	1540	325	925	255
16.0	12.5	595	112	455	186
12.5	10.0	482	65	265	87
10.0	6.3	123	70	62	61
Total		**16700**	**1744**	**13472**	**1441**

Results

	Flakiness Index(%):	10.44
	Elongation Index(%):	10.70
	Combined FI+EL (%)	21.14

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Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS, BANGALORE
Contractor	Benaka Developers & Project Pvt.Ltd.

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**09-02-2023**
Sample Location	At plant	**Date of Testing**	**09-02-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	359.00	375.00	385.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	278.00	290.00	296.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	81.00	85.00	89.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	22.56	22.67	23.12	
5	Average Aggregate impact value	(%)	22.78			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART I)

Project :	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 65 Byatarayanapura sub division
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Renuka Developers & Project Pvt Ltd.

Type of Material	BC	Proposed Use	BC
Sample Location	At plant	Date of Sampling	09.02.2024
		Date of Testing	09.02.2024

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	826	82	925	72
16.0	12.5	1337	135	1236	115
12.5	10.0	523	70	445	56
10.0	6.3	466	52	432	65
Total		3152	339	3038	308

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%)	10.76
Elongation Index(%)	10.14
Combined FI+EI, (%)	20.89

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Improvements to roads and drains at Hegdenagar and surrounding area in Ward No 05 Byatarayanapura sub division		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Benaka Developers & Project Pvt.Ltd.		
Proposed Use	BC	**Date of Sampling**	09-02-2023
Sample Location	At plant	**Date of Testing**	09-02-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	359.00	379.00	348.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	272.00	286.00	270.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	87.00	93.00	78.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.23	24.54	22.41	
5	Average Aggregate impact value	(%)	23.73			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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